

DOCUMENT RESUME

ED 308 944

PS 018 117

AUTHOR Hanna, Elizabeth; Meltzoff, Andrew N.
TITLE Peer Imitation in the Second Year of Life.
PUB DATE Apr 89
NOTE 8p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (Kansas City, MO, April 27-30, 1989).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Behavior Patterns; *Cognitive Ability; *Imitation; Infants; *Play

ABSTRACT

This study investigated whether infants could imitate other infants' actions with toys. A total of 40 infants, 14 months of age, were videotaped while playing with specifically designed toys. Half of the babies watched another infant demonstrate target actions with five toys. After a 5-minute delay, experimental subjects were given the toys to manipulate. The other half of the subjects served as controls; they did not observe a peer demonstration. Findings indicated that the experimental subjects performed significantly more of the target actions than the controls did, thus supporting the hypothesis of peer imitation after a delay. It is concluded that the experimental procedure could be used to test the limits of what infants can learn from one another. (Author/RH)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED308944

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- ☒ This document has been reproduced as
received from the person or organization
originating it.
- ☐ Minor changes have been made to improve
reproduction quality.
- Points of view or opinions stated in this docu-
ment do not necessarily represent official
OERI position or policy.

PEER IMITATION IN THE SECOND YEAR OF LIFE

Elizabeth Hanna and Andrew N. Meltzoff

Department of Psychology

University of Washington

Seattle, Washington 98195.

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Elizabeth
Hanna

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

PS 018117

Presented at the Meeting of the Society for Research in Child Development, Kansas
City, MO, April, 1989.

PEER IMITATION IN THE SECOND YEAR OF LIFE

Elizabeth Hanna and Andrew N. Meltzoff

ABSTRACT

This study tested whether infants could imitate other infants' actions with toys. 40 14-month-old infants were videotaped while playing with specially designed toys. Half of the infant subjects watched another infant demonstrate target actions with 5 toys. After a 5-minute delay, these subjects were given the toys to manipulate. The other half of the subjects served as controls; they did not observe a peer demonstration.

The results showed that the experimental subjects performed significantly more of the target actions than the controls, thus supporting the hypothesis of peer imitation after a delay. The experimental procedure developed here could be used to test the limits of what infants can learn from one another.

AIMS

The purpose of this study was to develop an experimental procedure for assessing infant peer imitation. Most research on infant peer interaction (e.g. Vandell & Wilson, 1987, or Eckerman et. al., 1979) has focused on peer imitation within a naturalistic or semi-naturalistic setting. We wanted to see if we could teach infants to produce target actions on cue, such that they could serve as "infant experts" who would systematically demonstrate actions to "infant novices". If we were successful, the next step would be to test for deferred imitation of peers in 14-month-old subjects. Recently, Meltzoff (1988) has reported deferred imitation in this age group, but the demonstration was presented by an adult, not another infant. Would preverbal infants observe other infants and reproduce the observed actions after a delay?

METHODS

Subjects. The subjects were 40 14-month-old infants.

Stimuli. The stimuli were 5 toys that could be acted upon in a simple manner to produce an interesting result. One toy was a small dumbbell-shaped object that could be pulled apart. The second was a plastic

camping cup that could be pushed down until it collapsed. The third toy was a block-on-a-string that was pulled along the table by its string. The fourth toy was a box with a button; the button was pushed to produce a buzzing sound. The fifth consisted of a string of beads and a cup; the demonstrator picked up the beads and deposited them in the cup.

Procedure. The procedure consisted of two phases. The first phase involved teaching the "expert infant" how to manipulate the stimuli in a particular manner, and the second phase was the demonstration by this "expert" to another infant subject.

In phase 1, the experimenter modeled the target actions to a naive subject and tried to develop a reciprocal imitation game with him/her. In this phase, infants were encouraged to play with the toys in particular ways through modeling by the adult as well as by vocal prompts and smiles. Infants who systematically produced the particular target actions on all 5 toys were dubbed an "expert" and served as the model for other subjects.

In phase 2, the experimenter handed the toys, one by one, to the "expert infant". The observer infant was allowed to watch the "expert" play with the toys, but was not allowed to handle the toys. After the demonstration, both infants left the room for a 5-minute delay. After the delay, the observer infant was handed the toys by the experimenter, and the responses were videotaped for subsequent scoring.

Another group of subjects served as baseline controls to test whether they would spontaneously produce the target actions without exposure to modeling. The procedure was exactly the same as for the experimental condition, except that the demonstration of the target actions was omitted. Figure 1 illustrates the laboratory set-up and a flow-chart for the 2 conditions.

RESULTS

These results provide clear evidence for an imitative effect of watching the peer demonstrator. Each subject was presented with 5 toys and therefore could receive a score ranging from 0 to 5, depending on how many of the target actions were performed. Figure 2 presents the number of target actions performed by subjects in each condition. The mean number of target actions performed by the model condition is 3.3, compared to 1.3 for the baseline condition, ($p < .001$).

Figure 3 presents the number of subjects performing the target action on each toy. Chi-square tests reveal that subjects in the peer demonstration condition performed the target action significantly more often than the control subjects for four of the five test toys.

CONCLUSIONS

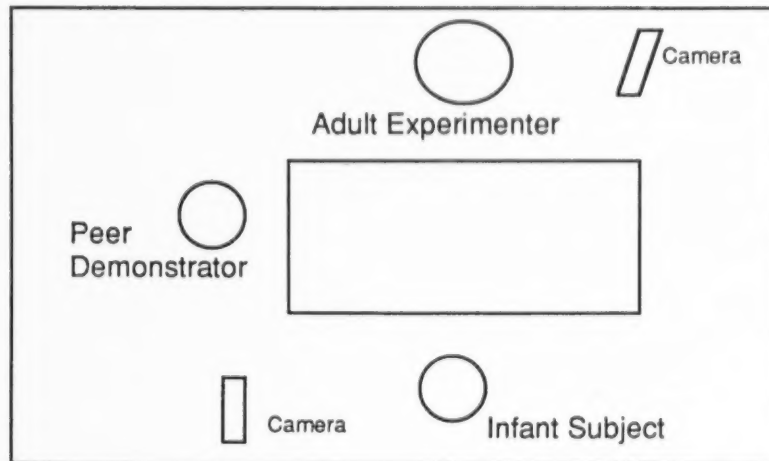
In this controlled study, 14-month-old infants imitated the specific actions demonstrated to them by a peer "expert". It is of equal interest that the imitative action could be performed after a 5-minute delay. This indicates at least some short-term memory for the actions of other infants and an ability to base behavior on the now-absent behavior of peers. We now plan to investigate the length of delay that can be tolerated in peer imitation. We are also interested in conducting more naturalistic studies of infant imitation, for example in daycare settings, where imitation of peers may be particularly important and prevalent. Regardless of the outcome of these future studies, the results in hand show peer imitation after a delay in 14-month-old infants, and thereby underscore the potential impact that the social group and peer interaction may have in early learning and development.

REFERENCES

- Eckerman, C.O., Whatley, J.L., & McGehee, L.J. (1979). Approaching and contacting the object another manipulates: A social skill of the 1-year-old. Developmental Psychology, 15, 585-593.
- Meltzoff, A.N. (1988). Infant imitation after a one-week delay: Novel acts and multiple stimuli. Developmental Psychology, 24, 470-476.
- Vandell, D., & Wilson, K. (1987). Infants' interactions with mother, sibling, and peer: Contrasts and relations between interaction systems. Child Development, 58, 176-186.

FIGURE 1

LABORATORY SET-UP:



EXPERIMENTAL
PROCEDURE:

Baseline Condition:	Warm-Up	—————→	5-Minute Delay	—————→	Test		
Peer Model Condition:	Warm-Up	→	Demonstration	—————→	5-Minute Delay	—————→	Test

FIGURE 2

Number of Target Acts Produced By
Subjects as a Function of Test Condition

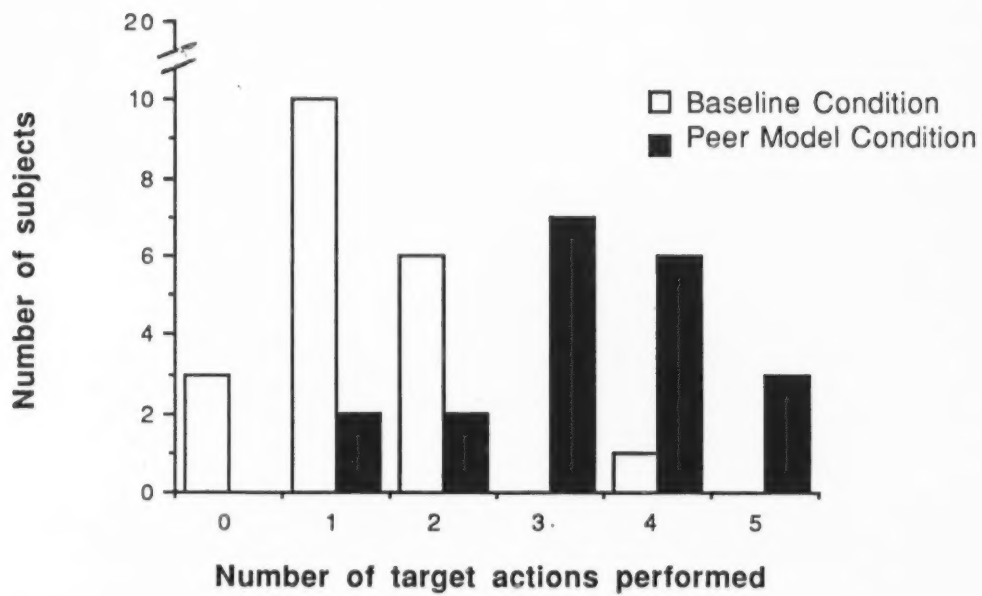


FIGURE 3

Number of Infants Producing Target Acts
For Each of the Five Test Objects as a
Function of Test Condition

